

HIGH SCHOOL REFORM STRATEGIES

A Summary of Research and Implications

Career academies and related options

Use of time, including block scheduling

Freshman transition programs

Professional learning communities

Creating high school communities for students and staff

Additional resources on high school reform

Recommendations for further investigation/site visits

Career academies and related options

Background: Career academies are one of the oldest and most established high school reform strategies in the US. They began in 1969 in Philadelphia primarily to address a high dropout problem among high risk students. Exported to California in 1981, career academies saw extensive statewide implementation accompanied by legislated evaluation studies. There has been a shift in recent years from a focus on non-college-bound work preparation for students at risk of dropping out to a more inclusive approach to address the needs of both transition to work/career and further post-secondary education, as well as addressing the needs of a more heterogeneous student population.

Career Academies: Impacts on Students' Engagement and Performance in High School, by James J. Kemple and Jason Snipes

<http://www.mdrc.org/publications/41/execsum.html> summarizes this history and the more recent transition of career academies to an inclusive model:

“The Career Academy approach is one of the oldest and most widely established high school reforms in the United States. Career Academies have existed for more than 30 years and have been implemented in more than 1,500 high schools across the country. The durability and broad appeal of the Academy approach can be attributed, in part, to the fact that its core features offer direct responses to a number of problems that have been identified in large comprehensive high schools. Career Academies attempt to create more supportive and personalized learning environments through a school-within-a-school structure. Their curricula combine academic and occupation-related course requirements that aim both to promote applied learning and to satisfy college entrance requirements. Academies establish partnerships with local employers to build sequences of career awareness and work-based learning opportunities for their students.

While the basic organizational features of the approach have remained the same since Career Academies' inception, the goals and target population have changed. The original Academies were designed primarily to prevent dropping out of high school and to increase preparation for work among students who began high school at high risk of school failure. There is now widespread agreement that Career Academies should seek to prepare students for both work *and* college, and that they should include a broad cross-section of students, including those who are highly engaged in school.”

Most of the twelve comprehensive high school reform models reviewed in **Engaging Schools: Fostering High School Students' Motivation to Learn**

<http://www.nap.edu/catalog/10421.html> include some structure for organizing **smaller high school learning communities** (emphasis added), though not all

explicitly utilize career academies to accomplish this goal. **Engaging Schools** reviews current research on what shapes adolescents' school engagement and motivation to learn—including new findings on students' sense of belonging—and looks at ways these can be used to reform urban high schools. Specific recommendations include creating smaller learning communities and eliminating tracking through setting high academic expectations for all students as well as additional support for those who have difficulty reaching those standards. Career academies offer one such approach.

In their original purest form, career academies were organized as smaller schools within a school staffed by a self-contained team of 8-10 teachers and counselors, often with their own administrator and/or lead teacher. The Johns Hopkins comprehensive high school reform model, Talent Development High Schools with Career Academies, <http://www.csos.jhu.edu/Talent/high.htm>, provides a detailed model of what it believes are essential components of career academies:

- A rigorous core curriculum taught in a four-period day (block schedule, which creates the time for more student electives and greater collaboration/coordination among the faculty team assigned to the academy as well as more personalized contact and follow-up with students
- a freshman transition program
- an after-hours alternative program for students who have serious attendance or discipline problems or who are coming to the school from prison or suspension from another school
- a self-contained school-within-a-school with its own unique entrance into its own separate part of the building, its own faculty for both basic academic courses and career-focused electives, and its own management team of Academy Principal and Academy Instructional Leader

Summarizing findings from California's extensive experience in implementing career academies, the ERIC document, "***What is a high school career academy? Results and policy implications***" (from **Career Academies: Educating Urban Students for Career Success**. ERIC/CUE Digest, Number 84). <http://www.ericfacility.net/ericdigests/ed355311.html>), identifies the following as crucial characteristics for successful career academies:

- strict adherence to the full career academy model;
- a clearly defined process for selecting students and ensuring that the program remains voluntary;
- strong support from the private sector;
- an emphasis on career planning;
- a full range of student support services such as counseling and mentoring programs;
- a high degree of commitment from teachers, administrators, and the business community

- an identifiable physical space for the academy, to reinforce students' sense of belonging (Dayton, Reller, & Evans, 1987)
- because academies require the active participation of local business--and because their career themes are geared toward local employment possibilities--they should reflect the cultural and economic features of the areas in which they are established (Stern et al., 1992).

Almost all career academies use some form of block or alternative scheduling (discussed in a separate section) to keep students together throughout the day and for 3-4 years, to expand student options for career-related electives and career-related experiences, and to provide increased time for faculty collaboration and personalized contact with students. Per pupil costs are higher than traditionally organized schools if the recommended model of a self-contained team of teachers and administrators, and a separate physical space are followed. Costs are also greater for creating smaller high school communities by assigning a team of 10 or so teachers to 400-500 students, though perhaps not as great as a school-within-a-school career academy.

Generally career academies reduce or eliminate tracking by setting rigorous academic course requirements which are expected of all students enrolled in the academy. Academies integrate academic and vocational curricula, sustained by strong business partnerships, opportunities for work experience, and significant outside funding.

David Stern and Mayo Tsuzuki Hallinan, the director and a researcher, respectively, at the National Center for Research in Vocational Education (NCRVE), recently identified [three more recent adaptations](#) of the career academy model. First, the *single theme* high school applies the career academy concept to an entire school of choice or magnet organized around an academy theme. This model is usually found in larger urban districts which have a sufficient student population to offer an entire school dedicated to a single career focus, such as a health academy associated with a hospital or university medical school. The second adaptation is organizing the entire school around a number of career academies, as compared to the original career model which was offered as an option for only some students. Within this model, every student belongs to one of the available career academies. Schools which have reorganized entirely around career academies cite data showing better performance from students in those settings who are involved with an academy.

However, requiring all students to be enrolled in an academy or career major may produce a backlash from parents who perceive the idea of a career academy as detracting from a rigorous college-prep program, as evidenced in the following article on a parent website, "[Career Clusters Will Transform Secondary Schools To Job Training Centers](#)". More recent research from MDRC indicates no significant difference between academy and non-academy students in their pursuit of post-secondary education.

[Bergen County Academies](#) in Hackensack, New Jersey has created a blended modification of the first two concepts. It operates seven distinct academies-of-choice within a single facility serving over 1100 students from 45 districts within Bergen County. Students apply on a highly competitive basis to begin one of the academies in 9th grade. Most of the academic subjects (exceptions are math and foreign language) are taught to students within each specific academy.

A third option is frequently associated with career majors, clusters or [pathways](#). As described by Stern and Hallinan, this option organizes a student's career interest into a sequence of three to four vocational-technical courses in that area. While vocational courses are organized around these career clusters, regular academic courses are typically taken by all students rather than only by those in a specific career cluster. Some districts with career majors incorporate the beginning of career planning into [8th grade](#).

While integrating academic course content with the career majors is a goal of this approach, the authors perceive career majors as a more traditional model which preserves the structure of distinct academic and vocational departments, and often is a transition step:

“Some teachers in pathway schools say they would like to see more extensive integration of curriculum. For this reason, this model is sometimes seen as a transitional step toward dividing the school into more self-contained houses or academies.”

Almost all of the career academies reviewed seem to rely on some version of a block schedule to expand the opportunity for students to take career-related coursework or work experience while still meeting more rigorous academic requirements than those associated with the “general track.” The more traditional, transition model of career majors or pathways, which reorganizes vocational courses but usually does not change academic departments, seems associated with a much greater variety of scheduling options, including the [traditional six period day](#) of year-long classes.

Some of these more recent adaptations do not incorporate all of the features traditionally recommended for a career academy, such as a separate part of the building and self-contained faculty and administration. For example, [White Knoll High School](#) in Lexington School District One, SC is piloting career majors as part of developing Individual Graduation Plans (IGP). [Career majors](#) consist of four courses organized around the 16 “career clusters” identified by the U.S. Department of Education. As planned by White Knoll high school, a student would complete 3-4 courses to earn a major, and apparently some students try to complete more than one major. These career majors enable a student to pursue career interests within a regular comprehensive high school rather than the school-within-a-school component of career academies. Again, a 4x4 block schedule is being used to increase student opportunities for career-related electives without reducing core academic courses, as well as expand opportunities for personalized academic support.

Since almost all the research on career academies has been conducted on models which incorporate self-contained schools-within-a-school, not enough is known about the most recent adaptations to know if they will be as successful in promoting student identification with a smaller community united by common career interests and the outcomes associated with a career academy approach. One impression is that some schools are offering a career major or pathway as an option, but without some of the increased career focus, higher expectations and increased support usually associated with career academies. Under such circumstances, one would not predict that this model would have the same size effects as those documented for the full career academy model.

Research: Until recently the numerous evaluations and studies of career academies were inconclusive, often due to not examining the possibility of different outcomes for different groups of students or different degrees of implementation. Three more recent studies provide more confidence in the results that can be anticipated, and those that are not supported, from career academies:

From “***What is a high school career academy? Results and policy implications***”, excerpts from **Career Academies: Educating Urban Students for Career Success**. ERIC/CUE Digest, Number 84

<http://www.ericfacility.net/ericdigests/ed355311.html>

- positive impact on keeping students in school, as well as upon
- the future employment and education of graduates. (Stern et al., 1992).
- As restructuring tools, career academies require a significant financial investment. Not only are their start-up costs high, but their reliance upon small communities of students and teachers makes the per-student price higher in comparison to traditional schools--an important consideration in districts facing budget cuts (Archer et al., 1989).
- However, studies factoring in the societal costs associated with continuing high dropout rates show that the long-term benefits far outweigh the investments required by academies (Stern, Dayton, Paik, & Weisberg, 1989).

From ***High School Career Academies: A Pathway to Educational Reform in Urban School Districts?*** by Nan L. Maxwell, California State University-Hayward, and Victor Rubin, University of California, Berkeley, c. 2000 by W.E. Upjohn Institute for Employment Research

<http://www.upjohninst.org/publications/ch1/maxwell-rubin.pdf>

(Extensive 7 year study of seven academies implemented as a high school reform strategy in major urban district)

- career academies increase the knowledge and skills that students take from high school.
- even though they were not fully implemented in any school, the career academies had a number of positive, measurable effects.

- academic skills provided by a career academy increase the probability of a student pursuing postsecondary education.
- career academy students were much more likely than were other students to state that their high school program helped them build educational and workplace skills that facilitate learning throughout their productive life.
- these positive postsecondary program outcomes are created by the increase in knowledge and skills that students take from high school.
- little evidence that career academy programs, per se, changed educational outcomes or labor market experiences, compared to other high school curricula.
- **Implication:** The career academy must build academic knowledge and skills in high school. There is no getting around this, and no shortcut to achieving this. Simple exposure to careers, for example, is not sufficient, nor should it become an end in itself. Without building scholastic and skill achievements above levels of traditional high school programs, the additional cost of academy programs may not be warranted.
- No difference in immediate post-secondary employment or wages, but should facilitate labor market success as former students continue to move from school to work.
- The career academy strategy may not be appropriate in all high schools and for all students. All environments may not be hospitable to academy development, and academies may evolve distinctly within the same environment.

From ***Career Academies: Impacts on Students' Engagement and Performance in High School***, James J. Kemple and Jason Snipes, Manpower Demonstration Research Corporation (MDRC, nonprofit, nonpartisan social policy research organization), <http://www.mdrc.org/publications/41/execsum.html>
Summary from 10-year Career Academies evaluation

“There has been a great deal of research on the Academy approach. Nevertheless, previous studies have been unable to determine reliably whether differences between Academy students’ high school experiences and outcomes and those of other students result from the Academy itself or from the program’s student targeting or its selection practices. Further, little is known about the relative effectiveness of Academies for different groups within the broad cross-section of students they now serve. There have also been few opportunities to explore the extent to which different contexts and implementation strategies may influence the effectiveness of the Academy approach.

This report marks a milestone in the Manpower Demonstration Research Corporation’s (MDRC) 10-year Career Academies Evaluation, which is being supported by the U.S. Departments of Education and Labor and by 17 private foundations and organizations. The report focuses on over 1,700 students who had applied for one of nine Career Academies participating in the evaluation.¹ The participating Academies were able to implement and sustain the basic features of the approach and have adapted to a wide range of local needs and circumstances. They include a range of technical, service-oriented, and business-related career themes and are located in small cities and large urban school districts. Students in the study sample were identified when they were in 8th or 9th grade, and this report follows them through the end of their scheduled 12th-grade year.”

- The Career Academies in this study increased both the level of interpersonal support students experienced during high school and their participation in career awareness and work-based learning activities.
- The Career Academies substantially improved high school outcomes among students at high risk of dropping out. For this group, the Academies reduced dropout rates, improved attendance, increased academic course-taking, and increased the likelihood of earning enough credits to graduate on time.
- Among students least likely to drop out of high school, the Career Academies increased the likelihood of graduating on time. The Academies also increased vocational course-taking for these students without reducing their likelihood of completing a basic core academic curriculum.
- In sites where the Academies produced particularly dramatic enhancements in the interpersonal support that students received from teachers and peers, the Career Academies reduced dropout rates and improved school engagement for both high-risk and medium-risk subgroups (about 75 percent of the students served).
- Academies **that did not enhance these supports actually increased dropout rates and reduced school engagement for some students**.
- The Career Academies did not improve standardized math and reading achievement test scores.
- When the findings are averaged across the diverse groups of students in the full study sample, it appears that the Career Academies produced only slight reductions in dropout rates and modest increases in other measures of school engagement. These aggregated findings, however, mask the high degree of variation in effectiveness among different groups of students and across the different program contexts.

A [recent follow-up study](#) reported in *Education Week* (March 17, 2004) identified for the first time increased earnings among young men, but not young women, who graduated from career academies:

- The Career Academies substantially improved the labor market prospects of young men, a group that has experienced a severe decline in real earnings in recent years. Through a combination of increased wages, hours worked, and employment stability, the young men in the Academy group earned over \$10,000 (18 percent) more than those in the non-Academy control group over the four-year follow-up period.
- The Career Academies had no significant impacts (positive or negative) on the labor market outcomes for young women. This may be due, in part, to the fact that young women in both the Academy and the non-Academy group had greater propensity than the young men to be attending school or taking care of children.
- Overall, the Career Academies served as viable pathways to a range of post-secondary education opportunities, but they do not appear to have been more effective than options available to the non-Academy group. More than 90 percent of the students in the Academy and non-Academy groups graduated from high school or received a General Educational Development (GED) certificate. By the end of the follow-up period, more than half the sample had completed a post-secondary credential or were working toward one.

- The positive labor market impacts were concentrated among Academy group members who were at high or medium risk of dropping out of high school when they entered the programs. Although the Career Academies reduced enrollments in post-secondary education among those who entered the programs at highest risk of dropping out, this does not appear to have diminished the substantial earnings advantage produced by the Academies for this subgroup. The lack of labor market impacts for the low-risk subgroup may be due to this group's greater focus, relative to the others, on post-secondary education.

Summary and implications:

From ***Career Academies: Impacts on Students' Engagement and Performance in High School***

- Career Academies provide a well-defined approach to creating more supportive high school environments and increasing students' exposure to career awareness and work-based learning activities. (note: smaller, more personalized learning communities)
- Among students who are most at risk of dropping out of high school (emphasis added), Career Academies are an effective means of preventing dropout, increasing school engagement, and helping students acquire the credentials they need to graduate and prepare for post-secondary education. In addition, career academies improve the post-secondary earnings of young men, particularly those at medium to high risk of dropping out, and do not appear to reduce pursuit of post-secondary education.
- Career Academies should continue to serve a heterogeneous population of students. The pervasive positive impacts for students at high risk of dropping out may derive, in part, from exposure to a highly engaged peer group who, on balance, also benefit from exposure to several key dimensions of the Academy experience.
- If Career Academies do not complement their career-related curriculum and work-based learning activities with strong interpersonal and academic supports, they risk reducing school engagement for some students (emphasis added). A highly structured school-within-a-school organization can create a necessary set of conditions for providing these supports.
- Career Academies should build on the effective organizational enhancements they bring to high school reform efforts if they are to improve academic achievement as measured by most standardized tests currently in use. Promising approaches may involve aligning Career Academy curricula with high standards and providing teachers with the incentives and capacity to deliver on such standards.

<i>High School Career Academies as a Reform Strategy</i>	
<i>PROS</i>	<i>CONS</i>
Potential to provide more meaningful coursework through integration of academics with career interests and real-world examples and experiences	Potential to decrease student diversity through self-selected, smaller communities unless types of academies selected for attraction to diverse groups of students
Partnership and support of business partners to increase authenticity of learning, student motivation and engagement, and employer satisfaction with graduate's preparation	No necessary impact on improving student achievement unless incorporate strategies for improving student preparation and more academic and interpersonal support for achieving more rigorous standards
Productive strategy for creating smaller learning communities	On-going increased expense of creating smaller learning community, estimated at

	3-5% budget increase.
Proven effective strategy for decreasing dropouts	Difficulty of selecting academies that will attract adequate student enrollment, perhaps leading to more difficult to resolve needs for transportation and regional approach, or alternatives such as career majors that do not involve school-within-a-school and minimum 400 students/10 faculty
Proven strategy for increasing likelihood of pursuing post-secondary study	Detrimental impact on at risk and mid-level students if interpersonal support not dramatically increased
Potential for increasing standards: all students college tech prep through incorporating more rigorous coursework requirements for all students	Potential conflict in minds of parents and students between generic goal of college prep vs career-oriented college prep academy
Career-area focus can help encourage collaboration and professional learning community among teachers across disciplines	Does not in and of itself necessarily promote development of professional learning community
Opportunity for student to experience career-interested related work experiences such as projects, internships and apprenticeships	Possible negative impact of pure 4x4 block scheduling on some achievement of content and students (see discussion below)
Opportunities for teachers to collaborate with business/community to incorporate more authentic applications of academic knowledge into coursework	

Should all students be required to pursue either a rigorous career major or college prep by closing the “general track?” Recommendations from **Closing the Senior Year Gap for All Students** (from the [High Schools that Work](#) website)

- *Have students to take a high-level mathematics course in senior year - 90%*
- *Administer placement exams at the end of grade 11*
- *Require an academic or career major of all students - 90%*
- *Raise graduation requirements with a block schedule*

“...one way to strengthen the senior year is to close down the general strand. Several of our HSTW sites, in the year 2000, assessed a cross section of academic and career students. Many were surprised to find that the career students outperformed the college-preparatory students in reading, mathematics and science. This is due in part to the fact that if you do not require an academic or a career concentration, a whole host of students will take elective courses that are very soft on content and do little to prepare them for either work or further study.

...high schools that adapt a block schedule need to raise graduation requirements. HSTW sites that made the greatest gains in achievement in 1998 and 2000 were the sites that had gone to a block schedule and had raised their graduation requirements to 26-28 credits. The schools making the greatest gains were those that required four years of math and science along with either an academic or a career concentration.”

Implication: all students would be required to take the courses necessary for four-year college entry *or* complete a career major which incorporates more rigorous academic expectations aligned with a career interest. This approach to increasing standards and expectations for all by requiring students to take either college prep or a college tech-prep course of study might avoid some of the controversy and misinformation that can occur if all students were required to select a career major